

41/ 482
/484 cont./

around some part of their body to have it quickly accessible at any time, but it is not regarded as an ornament (195). The

195. Hyades (h):33 expressed the surprising view: "We must therefore admit that the sling of the Yahgan is as much an ornamental object for men as it is a weapon for hunting or war" /translated from French/.



Fig. 41. Man with a Sling.

Yamana use it not only to stun birds, but also in fighting against their own people.

411 [142 302] /485/ All indications point to the fact that the sling was used in all parts of the Cape Horn Archipelago./Fig. 41 appears here./ Every man and boy owned and owns one. When the Mission Scientifique arrived in Orange Bay, according to Hyades (q):357, every man carried his sling. This was customary throughout the entire area occupied by this tribe. Lothrop (b):157 indulges in vain speculation about the origin of the sling and says "that the Ona had acquired knowledge of this weapon from the Yaghan" /cited in English/. I cannot agree with this view; I shall not go into his evidence and mine at this point. Instead, I take the view of Snow (b):264 that the Yamana "are remarkably expert with their slings" /cited in English/. Obviously, the fact that they own and use the sling also proves "their ingenuity" /cited in English/.

8. Snares and Fishing Implements

223 226 Our Yamana are fortunate in having a wide selection among the animals of their homeland to meet their food needs. They approach each species in a special way in order to catch them as easily and surely as possible. Besides the weapons mentioned

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223 above, they also use several implements which we shall briefly
226 characterize here and describe in greater detail below. These
implements have been brought under one heading in this section.
They help the men and women to obtain the smaller representa-
tives of Fuegian fauna, namely, birds and the so-called lower
animals, such as mussels and crabs.

a. The Snare-line

223 This is a construction that is used for inconspicuous mass
capture. The Yamana call it ufka; I believe the most suitable
designation is large snare-line. It could also be called "snare-
trap." It is used more often by the Halakwulup than by our
Fuegians. Hyades (q):359 correctly reminds us that it was ob-
served by Bougainville in the year 1769 on the shores of the
Strait of Magellan.

223 The foundation, so to speak, of this large snare-line is a
283 thick, braided cord of long guanaco sinews. Since few /486/
people can obtain this, they content themselves with whale
sinews and make a firm braid with three strong strands. This is
saturated with fat and repeatedly greased, for it often lies on
the damp earth for a long time and must be protected from
rotting.

223 On the long cord at intervals of about 60 centimeters, there
284 are tied as many knotted loops, known as kér-²ēf, as the length
of cord will permit. Each of them consists of a single strip of
whalebone about four millimeters wide, the edges of which must
not fray since this would interfere with the free movement of
the small loop-knot at the upper end. The other end, after
being drawn through the loop, terminates in a simple knot and
is fastened to the long cord. All the knotted loops are placed
on the same side of the cord. Each one, when it is entirely
loose, has a diameter of nearly 20 centimeters.

223 Actually, therefore, the large snare-line ufka, is, following
Hyades (q):304, a "game of snares" /translated from French/
(Fig. 59). Martial:195 calls it "a noose" /translated from French,
lacet/, which he describes as "a rope of seal tendons on which

/487 cont. /

223
284 long, slender shaft furnished with a running loop of whalebone" /translated from French/. The end piece is attached to the tip of the shaft by a knot in the lashing of sinew. It is surprising that this whalebone noose, ke^{tu} ēf, is put together with two pieces, a long one and a short one. The two run side by side for a few centimeters and are lashed with sinews; the short one ends in a small loop-knot. We also find this same overlapping [71] in every one of the whalebone loops on the long snare-line of the Selk'nam (Vol. I, 283), whereas on that of our Yamana each whalebone loop is one strip only (Fig. 59). A ke^{tu} ēf consisting of two parts is more effective and more durable; our Yamana are convinced of that. But why they do not use these two-part loops on the long snare-line no one could tell me. Probably the people avoid the greater effort, since the work of making a snare-line is laborious enough.

223 We need not explain specifically how this snare-rod is used. It is, of course, put forward unnoticed by a man hidden in a suitable spot, drawn over the head of a bird, and immediately pulled in with a sharp jerk. The principle of the noose is exactly the same as in the case of the long snare-line. The natives even use a single whalebone noose without any kind of shaft to catch birds. Herewith we have adequately described and characterized the threefold way in which the whalebone snare is used by the Yamana.

Y. Mussel Fork, Mussel Breaker, Crab Fork

● 226
[262] The shellfish of the sea have the same importance for the diet of our Fuegian as bread, for instance, has for the European. Many of them he can gather on the beach, others he must take out of the water. The two types of mussels which are found there, namely ē^{tu} uf (*Mytilus chilensis*) and ke^{tu} ēf (*Mytilus edulis*), occur in vast quantities. They are larger and tastier the more abundantly they are covered with water even at lowest ebb tide and the stronger the current is that swirls around them back and forth. It would be impossible to pry these animals loose with one's hand, as one can, for instance, the smaller and less tasty ones that every ebb tide uncovers.

/487 cont./

227 The Indian woman uses the so-called mussel fork, which she calls kalāna, in order to loosen the cluster-like accumulations on the deep coastline and to break off the individual shells on the stalks of Macrocystis algae. The husband must make this implement for her, for he alone has the necessary tools. He chooses for the shaft /488/ a young tree as tall as possible. He prefers [824] Maytenus magellanica, the wood of which is heavier than that of the beech. He takes the bark off the little trunk and smooths it well, cutting off the upper end somewhat obliquely. He allows a length of two and a half meters and more.

[824] The actual fork, which is only about one-fifth as long as the shaft, yēyakēr⁴, is lashed onto the latter with a narrow leather strap. The only suitable wood for this is hūma, the large Berberis ilicifolia which is extraordinarily tough and hence very flexible. A rather thick small stem is split lengthwise, the more suitable half is cut off at the bottom like a spatula, and a long incision is made to produce a two-pronged fork. A small, short wooden plug is inserted into this slit and lashed with a braided thread of rush or with whalebone (197); this keeps it always open. Through

197. Lothrop (b):154 reproduces what he calls a "limpet-spear" /cited in English/, in which the short plug is lashed with a narrow strip of whalebone. Figure 61 of the present work shows a lashing with braided rush stalks.

its own expansion the layers of wood fibers warp so advantageously that the entire piece seems curved outward. This slight bending facilitates penetration into the clustered accumulations of mussel shells. The upper part of the fork is whittled all around and tied to the shaft (Fig. 61).

226 The Indian woman lets this long implement glide from her canoe perpendicularly into the depths. She uses it, however, only on days when the sea is calm and the water transparent (198).

198. Hyades (q):369 writes: "This fishing is common practice and each canoe is always furnished with tools for this purpose" /translated from French/.

/488 cont. /

- 226 She loosens each individual shell, breaks it off from the place where it is lodged, and lifts it up. The mussel fork almost always lies in the front part of the canoe between the harpoons and spears of the husband, since it is safest here.

227 When the Indian woman, walking on the uncovered
226 sea-floor at ebb tide or wading in the water, breaks off the mussel shells, she perceptibly lessens the strain on her hands if she uses a pointed stick which I call the mussel breaker (Fig. 42). This is nothing more than a sturdy stem or thick branch of Berberis ilicifolia. The husband makes it for his wife. He removes the twigs smoothly but leaves the bark, since its rough surface always assures the hand a firm grip, no matter how thoroughly the stick is soaked with sea water. It was just mentioned that the wood of this bush is very tough, yet soft and pliable. Another type of wood would seldom stand the strain of the springy movements which are necessary to pry off the mussels. At the bottom the mussel breaker is cut off in the shape of a chisel and with a dull edge so that it can easily dig deeply enough into the clustered accumulations of mussels. The woman is very adept at handling it effortlessly.

[24] /489/ If she does not happen to have it, she reaches for a /Fig. 42 appears here/ stick the length of an arm which she cuts to a short, dull point. With this wasinix she pokes into the cluster of mussels, moving the upper free end back and forth until the individual animals are loosened.

- 226 The very tasty oxytomes are also appreciated by the
[262] Yamana as a delicacy. We refer to the large axiya (Lithodes antarctica) and the small stekálu (Paralomis granulosa). These animals are found there in considerable numbers and constantly move up and down the coast on the sea floor according to the movements of ebb and flow. They are always, however, under a considerable amount of water. The natives are not always successful in diving to catch them because they stay in the depths and seek to escape. Hence a long implement has been invented which it seems suitable to call a crab fork and which the Yamana call sina (Fig. 62) Its basic form corresponds precisely to the

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Fig. 42.

Mussel Breaker.

/489 cont./

227 mussel fork. There is a complete description of it elsewhere, as well as a discussion of how it is used.

[B24] The bark of a small, straight trunk of the evergreen beech is scraped off and the surface made octagonal. For the part that is added on, the natives choose a small, thick stem of the large barberry, huma, the particular suitability of which has been repeatedly described. They split it crosswise two-thirds of its total length, and the four prongs are pried apart with two small, short wooden plugs. These prongs are tapered to blunt ends. The other end, after it has been suitably cut off, is lashed tight to the shaft with a strap or with a small cord of braided rubber. Colini: 161 describes a specimen, the total length of which is 3.25 meters; most of them are not longer. The thinner it is, the more suitable.

226 The Indian woman slides this long fork perpendicularly into the depths from her canoe and pushes the prongs into the round, flat calcareous shell of the so-called cephalothorax of a crab. The pressure and constriction which these prongs cause among the broken particles prevent the whole animal from sliding off when it is being drawn up, no matter how actively it wriggles with its long legs. In the canoe the Indian woman strips it off the prongs with her feet while she holds the crab fork perpendicularly in her hands, whereupon the animal falls to the bottom of the boat.

[B25] It is, of course, again the duty of the husband to make this crab fork for his wife. While he is working on the shaft, he protects his hand with a special piece of leather (Fig. 28).

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♂. The Fishline

The tender, fresh meat of fish is a welcome change for the Yamana in their somewhat monotonous diet. Sometimes the man throws a spear toward a larger fish that is resting in a shallow cove or that elsewhere affords a sure target. Much more often the Indian woman is busy with her fishline which she merely slips into the water from her canoe, drier from the beach and still less by means of any kind of long fishing rod.

/490 cont./

227 Two types of fishline are used, and they differ from one an-
 283 other only in the actual line. One is nothing more nor less than
 [924] a small, pencil-thick stem of the large brown alga (Macrocystis
pyrifera) from which, with the fingernail, the branches are re-
 moved so close to the stalk that it seems quite smooth (Fig. 63).
 After each use it is rolled up; hence it dries very slowly and does
 not readily become brittle. When it is needed, 20 minutes in
 the water will suffice to soften it up completely and make it
 flexible once more.

The other fishline is braided out of three thin filaments of
 sinew. Like the one mentioned first, it is eight and more meters
 long (Fig. 64). To make it last longer, it, too, is rolled up,
 but into a tight ball, after each use (199). The latter is incom-

199. Bridges (MM:III, 115; 1869) briefly
 describes both types. Hyades (g):38 re-
 peated: "The lines are made partly out
 of dried seaweed [Macrocystis pyrifera],
 partly out of seal tendons, and are lowered
 with a stone tied to them." See Krickeberg:
 320 and Lovisato (b):142.

parably more durable and proves to be much more trustworthy when
 it is hauled in.

227 Both lines terminate in a loop with a running knot made out
 284 of a quill. When it is opened up, it measures about 12 centi-
 meters. Since the actual line ends in a small knot, the upper end
 of the quill is joined on in front of the knot. Along its smooth
 surface the running loop moves without any friction. As bait it
 holds a small piece of seal meat or a small mussel.

227 Since the bait must sometimes be sunk to considerable depths,
 a sinker is indispensable. The natives use any stone with flat
 sides and irregular edges. It is about three centimeters high. The
 line is wound around it, about eight centimeters above the loop.
 In the central Yamana regions the natives sometimes select the
 round black stone tefi, but few women have any of them handy.

226 Every Indian woman is extraordinarily skillful in fishing.
 Since she does not use an actual fish hook, she waits until the
 fish has swallowed the bait and only then very gently pulls up the

/490 cont. /

226 line. When the fish has been brought near the surface, she reaches down and grasps it with a sure hand, pushing her second and third finger under each gill cover. After she has lifted it out of the water, she bites through its neck and kills it. *

227 /491/ The snares and fishing implements used by our Yamana show extreme appropriateness. Each one of these things proves that it enables the Indian, with a small amount of effort, to get the wild animals he wants or is stalking.

3. Tools

412 The Fuegians have not yet advanced to a universal or even
324 preponderant use of stone tools. To blame this on the sparse occurrence of quartzite and slate in these regions is not sufficient explanation. When iron and glass were introduced by Europeans, [17] the natives used these materials immediately, albeit in limited measure, without, however, changing the original form of their implements or replacing them by others. Actual working of the stone seems necessary only in the case of stone arrowheads and dagger points (p. 169). It cannot be definitely shown whether these Fuegians also shaped the round black stone with a groove, known as tsai. Hence the greater part of their tools consists of mussel shells, wood, and bone. This fact can be easily ascertained from the accounts of earlier navigators.

The following description pertains to these items as they were made before being influenced by Europeans. We must credit our Fuegians with considerable cultural progress by reason of the fact that they succeeded in making a number of implements of different construction and form, each with a very definite use.

412 We should like to mention briefly here a peculiar form of be-
461 havior of the Yamana which Ledebur (p. 120) has also referred to. When they need anything for their implements, they do not take the trouble to make a thorough search for a good piece or await an opportunity to come across a better part. Rather, they take the first thing that comes along if it suffices for their momentary need and if it promises to fulfill the purpose for which it was intended. A better shaped mussel shell to be used as a knife, a more regular

/529 com./

462 the few and simple implements that make gathering easier for her. All of them are very functional and testify to a practical good sense. As a result, the procuring of food never becomes a burdensome task to the women. She takes the great majority of her produce from the animal kingdom, but the vegetable kingdom, too, offers her some things which she finds welcome new and then.

A. Food From the Animal Kingdom

226 1. Mussels. On the rocky shore-line of the many islands are dense colonies of mussels. There are two kinds (Mytilus chilensis) of red bivalves (Mytilus edulis) that cover broad areas along a slightly sloping, stony bottom (p. 44 /untranslated/) (194). They

284. Mytilus (p. 12) was mentioned at the indefatigable riches of shellfish, especially mussels, in Orange Bay. George Foster (p. 12, 178) writes that in San Antonio "the rocks along the shore were covered with large mussels (Mytilus edulis), the meat of which seemed tastier to us than that of the best oyster." One finds the same abundance, more or less, throughout the entire Tamara region.

Do not go beyond the highest water level, hence almost every low tide covers them. The deepest layers are not even uncovered at lowest ebb tide and consist of larger specimens. These mussels thrive best and attain unusual size in places where there are constant small eddies and restless waves in currents. The Tamara are acquainted with every little spot of their country and each tiny corner of their coast. They often come back to the same spot, move about now over the same coast, and find their way again in local conditions without any trouble.

The most dense, clump-like accumulations of large mussels can actually be reached only at low tide with the canoe. Their meat is not only fresh and tasty, but yields a rich meal. /Foot/ /Fig. 41 appear here./ Hence the women is willing to take the

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usually to work out the preferable spots where there are large shells.

Living in the caves, the locals turn off with a long wooden fork (Fig. 61) and take them up with it. Even the husband sometimes reaches for the useful tool while the woman tends to the hearth, if there is a possibility that a current might push it off. The people call the tool taille. I designate it as "long wooden fork." It consists of a head and a long stick with a square cross-section (20). A suitable name of

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205. It was well illustrated and described by Hyden (p.13 and (p.101, 102. LeRoy (p.110 gives it as "long spear" /used in English/, Hyden (p.13 as "a forked, etc. spear of wood" /translated from French/.

Stethopsis benthicola is chosen, or Myrmica ruginodis, which they like even better. The former is heavier and stronger and makes the work easier for the women. The upper part is always made out of the tough wood of the large baobab (Adansonia digitata). A man about three centimeters thick is split down the middle, the outside part bent of back and flattened on either side until it resembles a chair. The upper, wider end is split into two prongs which are held apart by the insertion of a short wooden plug about as thick as a pencil. This is put approximately in the center of the entire groove of the split and is tied with a beaded web thread, a whalebone strip, or a bark fiber. The thicker end of the long pole is also flattened on its broad side, the two pieces are fitted against each other and secured with a narrow leather strap or a beaded web cord, just as in the case

Fig. 61. Wood Fork.

/1940 cont./

227 of the crab fork (Fig. 42). This long mussel fork is very easy to handle. A gentle push from above loosens the clinging mussel below, and making the fork spring back and forth, always from the same direction, finally releases it. If possible, it is lifted up from the ground by hand. In deep places the woman with her long fork pushes it under water to the open beach. Usually, however, and this is a second reason for the long shaft, she presses the shell between the two distended prongs and carefully draws it up. Often the shell slides out just before she gets it up; then she simply picks it up again. To decrease resistance, the woman lifts the long rod up vertically and grasps the shell with her other hand. Patiently she works in her vessel, bent over the edge, and spears one mussel after another /44/ until after two or three hours she returns to the hut with the yield of her diligence. For this work the sea must be calm and clear, for the deeply bedded mussels are usually covered over with floating algae of various kinds and are not easily recognized. The mussel fork is a necessary adjunct to the canoe, and no Indian woman is without it.

228 Since there are many days that are not suitable for plucking off the large mussels in deep water according to the method described, the people also content themselves with the somewhat smaller and less wary animals near the beach. Women and girls creep into the water and wade out to the densest accumulations of mussels. They either tear them off with their hands or loosen them with a stick the length of an arm, flamed at one end, which I call the mussel breaker, wakila, and which BD:379 refers to as migigila (Fig. 43). Finally, they also use any stick that is pointed at the bottom. They immediately place the shells in their little baskets, which they have hanging on their arms or which they set on the ground at the edge of the water. Bent low, they walk along slowly and silently, without straightening up; they collect heavily until the little basket is filled. Since several persons may be occupied in this way at the same time, the line they form looks somewhat strange to a European observer who happens to meet them (228).

229. Dyakos (q: 228) agrees: "It is a curious sight which confuses the European who

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observes them and unconsciously compares them with the women of our coasts going fishing at low tide: the same grave silence, the same busyness, and from a distance the same silhouettes"
/translated from French/.

At almost every ebb tide the women comb the wide surfaces laid bare by the receding sea. On a slightly sloping shore these are sometimes ten or more meters (267). Here there are only

267. Fortunately, the strip of earth along the shore which is laid bare at low tide is easily pervious and soon becomes hard.
Hyades (f):553 specially refers to this.

medium-sized and small mussels, but they are easy to gather. They are sometimes loosened with a short, strong stick or with the above-mentioned mussel-breaker, wasinix. It is just as easy to break them off with one's bare hand, since the clinging filaments of the live animals are weak.

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[854]
957] Assuming that low tide sets in during the day, one woman will make a date with another, and immediately others will join them. Each of them brings along her baby clinging to her back, and little girls run ahead, each with her own little basket. Sometimes a boy or two will run along out of curiosity and sheer pleasure, and they will watch for a while, but it would never occur to them to help because that is not their work. These women are only short /542/ distances apart. Walking slowly, they go from one spot to another, for the entire ocean floor is usually densely strewn with mussels. They seldom exchange a few words, and they keep their bent position unchanged. Sometimes they also squat down, without touching the damp earth, since the mussels can be easily grasped from any position. They stop working only when their little baskets are full. The women sometimes also set out late in the evening and in the early morning if the tide is particularly low. In winter they take along a glowing stick of wood and a few dry sticks in order to fan up a fire near the place where they are gathering. They return to it for a few minutes to warm their stiff

/542 cont./

226 hands and refresh themselves with a few roasted mussels. After
461 they have filled their baskets, if the harvest is ample, they even spread their back-apes on the ground and empty more mussels on them, with which they afterwards return heavily laden to the hut.

226 In this type of mussel-gathering, they collect some Patella, auwëra, known as pina when they are smaller and as álakuš auwëra when they are still smaller. They also collect Fissurella, úngu (amúngu in the western dialect, éngu in the southern dialect), some Pecten, čápi, and some Chiton, yěkěŕ or yakáa. Patella and Chiton are often imbedded in deeper spots and preferably under a broad tangle of kelp. The Indian woman ties up her canoe on the kelp and plucks these shellfish out singly with her long mussel fork. Mytilus mussels, of course, constitute the greater part of her gathering. The Yamana speak of edible mollusks under the generic term of čipáala (268), and, as is well known, they

268. Hyades (r):294 maintained that of the many shellfish living in those frigid waters "all the large species are edible" /translated from French/.

are very abundant there.

Summarizing from this account, we may say that the Indian woman gathers mussels in three different ways (269): either she

269. Bridges (MM:X, 58; 1876) had already mentioned the "three ways of gathering mussels" /cited in English/ of the Yamana, but his scant reports do not compare with the detailed description given in these lines.

walks along the flat beach laid bare by ebb tide and with her hand plucks off mussels and incidentally a few other shellfish; or she wades through shallow water to the rocks where somewhat larger mussels cling, which she removes with her short mussel-breaker, wasínix, and which reward her for poking about in the water; and

/542 cont./

226 finally, when the sea is calm and clear, she uses her long mussel-fork, kalána, with which, from her canoe, she lifts up from the bottom the largest, deeply embedded mussels individually. As Hyades (q):367 points out, the Indian woman is perfectly adapted for this work, since "it suffices for this fishing by hand to watch the movement of the tides, to know the beaches that are richly provided with shellfish, and to have a little manual practice in pulling up quickly the mussels that cover the shore" /translated from French/. To the Yamana the mussel is /543/ /Fig. 62 appears here/ simply indispensable. To gather them in the required amounts is a daily duty of the woman who devotes herself to it whenever the weather permits (270).

270. Bridges (MM:X, 58;1876), Dabbene (b):183, Hyades (h):2 and (q):366, and others have expressed themselves accurately and in detail about this. Bridges (loc. cit.) used the comparison of earlier navigators, namely, that "mussels are to the Firelanders what bread is to the Englishmen: the staff of life all the year round" /cited in English/. Hyades (q): 339 likewise repeated that mollusks "are a sort of daily bread to them" /translated from French/.

Her daughters of all ages help her.

Along inlets which are bordered with a flat shore and fine sand, the women sometimes look for the tasty tačówin (*Macra*) and the large snail, həfən



Fig. 62. Crab Fork.

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(Voluta). The former must be dug out of the sand with a short stick. The latter keeps to the sea bottom under water and is pushed forward on the bottom with the crab fork, until it can be picked up by hand. It yields a good, fresh morsel of meat. Although it can be reached only from the canoe, the Indians enjoy it so much that they go to all kinds of trouble to obtain it. They have no use for the shell.

2. Sea Urchins. In the eastern Beagle Channel sea urchins are far less frequent than in the west and south. Here they are often gathered because the so-called tongues (ovaries, spax), which are eaten, and the liquid inside the calcareous shell, which is drunk, have a particular flavor. Hyades (q):369 even maintains that "fishing for sea urchins... in certain seasons provides a principal article of food for the Fuegians and the women devote much time to it" /translated from French/. This opinion must be limited to the southernmost islands in locale and to autumn in time, since during the other months sea urchins are not wholesome. It would be a gross exaggeration if, with Hyades, we assumed that sea urchins were eaten as frequently throughout the year (271). Their rich

271. In Argentina and Chile everyone knows that sea urchins are edible only in certain months; during the other months they are very harmful.

Iodine content makes them tasty.

These animals, Ikf (Echinodermus), always keep to the sea floor and are never uncovered even by the lowest tide. In order to catch them the woman rows a short distance from shore, ties up her canoe in a tangle of floating Macrocystis algae, and through the clear, quiet sea water hunts for the sea urchins on the bottom. She squats in her light vessel and bends her head far over the rim. As soon as she discovers a sea urchin, she lets the crab fork (Fig. 62) slide down perpendicularly through both her hands and tries to squeeze the calcareous shell bristling with spikes into the prongs (272).

272. I use the word "crab-fork" rather than "crab-spear," thus agreeing with Hyades (h):10 and (q):369, although

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Lothrop (b):154 speaks of the "Sea-urchin spear" /cited in English/.

Carefully she lifts the long pole up again, precisely perpendicular. The Indian woman pierces the shell only when, in exceptional cases, she is not successful otherwise. She piles up her booty in the bottom of the canoe. If she is lucky, she gathers /544/ a whole dozen within an hour; if not, it takes her three to five hours to collect this amount. She sacrifices this time on account of the eagerly awaited enjoyment.

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In exceptional cases the Indian woman jumps out of her canoe and dives down to get the sea urchin with her hands (273). She

273. Despard (b):697 had already observed that "women dive for sea-eggs and the finer kinds of mussels" /cited in English/.

[147] does this when she sees several animals next to each other on the sea floor, which she cannot grasp with her crab fork because of the tangle of algae floating on top of it. She is not afraid of the cold water. She is used to it, because at all times of the year she must fasten her canoe a considerable distance from the beach and must swim back and forth (274).

274. Quite unjustifiably Hyades (h):12 and (q):370 makes this habit of the Indian women to dive for sea urchins the point of departure for a long explanation. Only an erroneous interpretation can lead him to speak of a "wretched duty" of the women to dive for sea urchins.

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Hyades' (q):369 emphasis on the significance of sea urchins does not correspond to the facts. He would have us believe that "this fish supplies almost exclusively the food needs of the people at certain times of the year when mollusks become rare" /translated from French/, but the inexhaustible mass of shellfish never diminishes, least of all that of mussels. We must agree with him,

/544 cont. /

226 however, that the Indian woman "practices (this type of fishing) with extreme dexterity" /translated from French/.

3. Oxystomes. More important than sea urchins for the Indian household are the large oxystomes plentiful in those waters, namely, ugifluš (Paralomis granulosus) and the much larger axiya (Lithodes antarctica). The latter are sometimes 60 centimeters wide between the fourth pair of feet. These animals move across the sea floor, proceeding slowly toward the shore during high tide and then back to the middle of the channel toward the end of low tide, in other words, in the direction of the water according to the tides. The Indian women take advantage of their habits. They go out to catch crabs about two hours before the tide rises because at that time the animals are nearest to the surface and are just beginning to move back from the shore, following the ebb.

227 Oxystomes can be reached only with the canoe which the woman rows, and by means of the long crab-fork, known as sirsa.

Usually /545/ one woman will steer the canoe and another will fish. For the above-mentioned fork (Fig. 62) they choose a perfectly straight, light pole about two and a half meters long from

[924] the young trunks of Nothofagus betuloides or Drmys winteri or Maytenus magellanica. The bark is scraped off and a smooth surface obtained. The first of the above trees is preferred, and from this they fashion an even, octagonal shaft. In the case of the other trunks their roundness is retained. The added part consists of a stick about 70 centimeters long of Berberis ilicifolia, the upper

half of which is split twice crosswise. The four prongs are whittled to a sharp point and spread apart somewhat with two short small plugs forming a cross and tied together with a braided cord of rushes. Both parts are flattened so that they fit well on top of each other and are then lashed with a narrow leather strap. The expansion of the tough, flexible barberry wood explains the fact that the four prongs are slightly curved outward. This piece was drawn through the fire for a short time as soon as the stick was cut off from the root and split. No other wood is so suitable, and the Yamana know this from long experience (p. 254).

226 It is possible to catch oxystomes (Notopoda) only when the sea is calm, because the Indian woman must look for each individual

/545 cont. /

226 animal on the bottom with her own eyes. If she has caught sight of one, she holds her crab fork perpendicular with both hands and lets it glide into the water. Ample experience has taught her to estimate correctly the light refraction in the water so that, with a vigorous, accurate push, she penetrates the calcareous capsule around the actual body. The entire animal is now securely speared and can be drawn up perpendicularly. In the canoe it is stripped off the fork with a blow of a stick. It usually goes on moving for a long time. Even though the actual body is perforated, this does not constitute a loss, for it has no solid meat in any case. The meat is in each of the long legs which remain undamaged. Whenever possible, the women like to search the bottom near the coast toward the end of low tide, for they, too, enjoy the excellent meat of these crabs (275).

275. Hyades (h):10 and (q):369 briefly mentions crab fishing. We have the impression that he did not become acquainted with the entire process from personal observation.

226 4. Fish. How eager the Yamana are for a change in their diet can be seen from the fact that they often go out to fish (276).

276. In travel accounts we frequently come across an exaggerated estimate, implying that a fish diet constituted a large part of Fuegian subsistence. This is what is maintained by an earlier account (VSA:XIII, 81:1866): "They live from hand to mouth, dependent chiefly upon fish for a subsistence" /cited in English/.

[221] Summer with its longer period of daylight and its less unfavorable weather conditions is far more suitable for this than the unfriendly winter. Nevertheless, one often finds women fishing even /546/ in the cold season. It is not unimportant in this connection that in winter the type of fish which the Yamana choose to catch withdraw

/546 cont./

226 from the outermost islands, possibly into the quiet channels directly adjacent where most species can actually be seen throughout the year (277). Our Indians apparently are not the least interested

[136]

277. Careful observations of the Mission Scientifique, reported by Hyades (h):14, leave no doubt about the regular departure of certain smaller species of fish from the Orange Bay region. There they are "numerous and of good quality, but only during the months of the summer season, that is to say, from December to March" /translated from French/. In another place, namely, (g):17, he repeats: "When winter came, the fish completely disappeared; then they seemed to travel northward, for in Beagle Channel we find them all the year round." In point of fact, the difference in the average annual temperature between here and Ushuaia, about 80 kilometers in distance, is considerable.

in fresh water fish. In any case, the cold, torrential mountain streams contain but few, the most common being Galaxias maculatus. In this region there are no wide, deep rivers which it would pay to navigate (278).

278. According to Hyades (f):563, "the most common and the most prized fish are several types of Notothenia, N. tessellata, N. macrocephalus, N. cornucula, N. cyaneobranchia, and the following species: Merluccius gayi, Geniptyx chilensis, Choenichthys esox, and Loepidochoenichthys tentaculum" /translated from French/.

/546 cont. /

226

Although in general fish adds a welcome change to the monotonous diet of the Indian, it is by no means of real significance for his nourishment. Referring to this, Hyades (h):14 has very much exaggerated. For example, no one touches the representatives of the order Harpagifer, tāpun, tēppun, although they would be very easy to catch. They are about as long as one's hand and have a broad head. They remain in the residual pools and cling to wet stones when the tide recedes.

[46]

It is exclusively the woman's occupation and task to fish with a line for certain smaller salt-water species. A man would never do this. The women use two different kinds of lines (see Hyades [q]:303). They fish with a line throughout the year, but only when the sea is calm (279). The woman makes the very simple

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283

279. To say that a woman fishes only "three months," that is, in summer with its long days, as Hyades does (q):370, is unjustified.

[84]

line (Fig. 63) herself. She chooses a long pencil thick stem of the easily obtainable large brown alga (Macrocystis pyrifera) and removes the few branches by snapping them off lightly with her fingernail. In this way she produces an almost smooth thread, tuina, tēkēpawa. Since it is elastic, it can be easily wound into a loose coil. In the shade it dries only partially so that it remains slightly damp. Any dull-colored, flattened, irregular stone about the size of a pocket watch will do as a sinker (280). The line is

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280. In an emergency the woman will even use a longish, stone spear-point as a sinker. This may have led some less careful observers to conclude that the Yámana use actual fish hooks such as are employed elsewhere.

wound around it and knotted so that the free end hangs down a few centimeters /547/ below it. This end is finished off with a small knot, into which is fastened a fiber from the quill of a stout bird feather, about ten centimeters long and four millimeters wide. The quill tapers somewhat /Fig. 63 appears here/ at the bottom and ends in a running knot that holds the bait. The latter consists

/547 cont./

227 by a woman in ancient times. The quill fiber, tixulina, with the running knot to hold the bait, which we have just described briefly, is the terminal point of every fishline (282).

282. Lista (b):48 speaks of "fishhooks of stone or of fishbones" /translated from Spanish/. His inaccurate data are worthless. Barclay (a):64 is more reliable; he reports on "fishing without hooks" /cited in English/, that is to say, without actual fishhooks.

226 • /548/ The woman manipulates her fishline in a strange way, as earlier navigators had already noted. She never uses an actual fishing rod (283). In her canoe she rows to those spots in the many

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177]

283. BD:406 uses the expression "tömmökur, a rod used for fishing with from the shore" /cited in English/, but if it actually occurs, the fishing rod was introduced by Europeans. I myself never saw one.

inlets where there are extensive clusters of floating Macrocytis. In the intricate entanglement of the small stems of this alga there are scores of fish large and small. The Indian woman ties up her vessel on one of the thicker stalks or pulls a tangled bundle of these small stems over a part of the canoe, which secures it well. Now she has both hands free, reaches for her fishline, and puts some bait on the lower end of it. Under the weight of the sinker the fishline uncoils in her hands, and she holds the line loosely in the water. Bent over the side of her canoe, which is tilted a little, she stares fixedly at the bait. This, as well as the fishline, deceive all fish, since they correspond exactly to the environment. When a fish bites and has swallowed enough of the bait, the Indian woman lifts the entire line along with the fish with a gentle tug until it is close to the surface of the water. Then with one hand she suddenly jerks up the fishline and with the other hand she grasps the fish the moment it is lifted out of the water (284).

284. This method, which was observed

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/548 cont./

by Fitz-Roy, has remained unchanged to the present day (Kng:428). He repeated his report on this subject on May 23, 1830 (*ibid.*, p. 40). Compare Lothrop (b):158.

Sensitive feeling, a sure eye, and much practice make it possible for every Indian woman to obtain her booty safely in this unusual manner. She develops an extraordinary skill in this work, although accompanying circumstances, namely, the adaptation of the fishline to the environment in which the fish move, favor her (285). In BD-615 we find wikatanakipa, "a good fishing

285. The advantages of this fishline over a European fishing rod makes a comparison pointed out by Hydes (h):15 very clear: "The women have extraordinary skill at this type of fishing, and very often we have seen them catch quantities of fine fish with this simple tackle" /translated from French/. The Yamana language has several expressions for fishing with a line.

woman" /cited in English/. It is clear that long fishing poles are out of place here.

The woman immediately bites into the neck of the fish or cuts it with a sharp mussel shell. She places the dead animal in the bottom of her canoe. Usually she draws a bast stalk through its gills and mouth and strings other fish on it. Soon eight to 12 fish are hanging on it, like boys on a large ring. Afterwards the woman ties more bait to the lower end of her line and again lowers it into the water. She goes on working in this way until she has collected a goodly number of fish. They do not amount to much meat, but all the women like to spend a few quiet hours fishing.

/548/ In all her maneuvers the Indian woman is as quiet and motionless as possible. Sudden motions of her hands would be reflected in the water and frighten away the fish. This would be even more true of perceptible rocking of the canoe. /Fig. 64 appear here./ Usually several women are busy fishing at the

/549 cont. /

226 same time. They have previously agreed on their plan in accordance with the weather and their own moods. Although they are close together in their canoes, they avoid all conversation. Within a short time, especially if they are favored by the weather, every woman has roughly a few dozen fish (286).

286. Fishing with the line is sometimes very profitable, as Hyades (h):15 confirms.

Several species of fish with tasty meat take the bait, most frequently tāpun (Notothenia cornucula), sūna (Notothenia macrocephalus), imakfra (Geniptyrus chilensis), čātax (Choenichthys esox), lasār (Latilus aff.), and others. In general, these species can be pulled up with the fishline made of kelp, which seldom breaks even when the fish is moderately large (287). In places where

287. Hyades (q):371 also confirms: "The common lines of seaweed rarely break, and they are adequate to take fish of medium size, up to half a kilogram" /translated from French/.

larger fish bite, the Indian woman chooses a fishline of woven sinew fibers (Fig. 64) so as not to lose her catch, for sinew fibers are strong and resistant as well as much more durable.

The Yamana women set out in their canoes at any hour of the day, if the surface of the water is smooth and the weather promises success. They even venture out on the water during the brief summer nights which are rather light there, but never in the dead of night, however, even with bright moonlight (288). They like to go

288. Many observers described this type

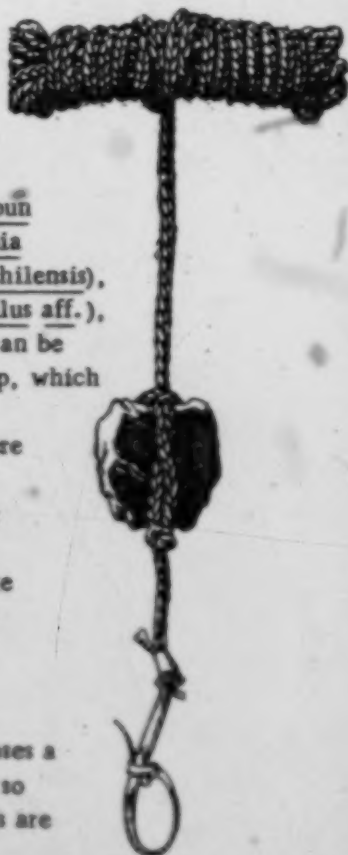


Fig. 64. Fishline Made of Sinew Cord. Three-quarters natural size.

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/549 cont./

of line-fishing, the following in detail:
Bridges (h):210, Despard (VP:VI, 127;
1859), Hyades (h):15, Lothrop (b):159.
Darwin (d):245 said: "The women jerk
up small fish with a baited line and with-
out any kind of hook."

fishing in the early morning, as Despard (b):697 accurately ob-
served.

A method very different from this one is an actual mass
catch directed primarily toward the dense shoals of true herring,
fileti. We are referring to Clupea arcuata J. and Clupea
pectinata J. They arrive unpredictably along the coasts at any
time of the year /550/ except summer. This shoal of millions
announces itself with a peculiar, utterly monotonous sound and
squeezes into the narrow channels or small bays, not infrequently
running up the shallow, wide beach. Afterwards these small
fish lie spread out by the thousands in layers several centimeters
high. A not unimportant factor in all this for the overjoyed
natives is the diversified animal accompaniment of these two
kinds of herring, namely, the much larger predatory fish of vari-
ous species and even seals. Rapacious sea birds also circle
around this mass invasion. For the Yamana this means a rich
selection of booty among several edible species (289).

289. On February 6, 1877, Bridges
(MM:X1, 109:1877) described an in-
vasion of fish from his own experience:
"There has been a remarkable supply
of fish, represented by sprats and
mackerel, inclusive of such birds, and
even seals, which prey upon them.
Sprats were so plentiful as to be left
repeatedly in dense masses on the shores
around us, and for some days the air
was scarcely fit to breathe through the
stench of millions of sprats which
literally covered the shores of the inlet.

226

/550 cont./

Four kinds, -- or rather five -- of fish are found in company with the sprats, which are decidedly larger than those found around the coasts of England. These five kinds of larger fish are excellent in flavour and richness, and their livers supply the natives with abundance of oil during the season. . . The noise made by the approaching myriads of fish was like that of quickly rippling water; we could even hear it, though some 400 yards off" /cited in English/.

When this procession comes up the beach, the Indians first pick the larger animals out of the abundant masses, and not until later do they tackle the inexhaustible abundance of small fish. It is obvious that dense swarms of birds which also feed immoderately can now be easily caught. We can understand what extraordinary joy such a swarm of fish with its varied accompaniment evokes among the Yamana (290), for it gives them a superfluity

290. Bridges (I):25 says: "As regards fish, these are found at seasons in immense quantities" /cited in English/. Thus, the amount of fish varies slightly with the seasons.

[42] to choose from for several days. Moreover, it is offered them in an easy way; indeed, it is scattered over a wide, flat beach. All hands, of course, help themselves to the gay profusion, although here, too, the usual division of labor prevails whereby the men try to get the larger animals while the women alone, supported by the girls, scoop the small fish into their baskets with their cupped hands. Everyone is busily collecting, for the harvest lasts only a few days at this richly laid table. Soon considerable amounts of the fish strewn about the beach are washed away by the tide, and the sea birds contribute to the diminution by their

/361 cont./

226 now filled with fish, drop gently off with its contents. The basket is turned upside-down, the fish emptied, and without delay it is stuck onto the pole once more. Agility is now demanded, for the fish shoal quickly passes. His hands can be idle (282).

196. Hyades (p. 372) also briefly describes this man catch with the loosely woven basket at the thick end of a short pole.

[42] Only the women can busy with all this, for the man meanwhile seeks to catch the larger accompanying animals with his weapon. Sometimes, however, he, too, takes the pole with the loosely woven basket if the woman has grown tired or is otherwise occupied. In less than an hour the occupants of a canoe, if they keep busy, can fill it so full of booty that they must head for shore. Quickly they take the many animals to their hut and set out again, for they know that the larger the shoal is, the /361/ more quickly it will be pushed out again into the open sea. They cannot draw uninter-
ruptedly upon the abundance of the large swarm for more than one whole day. After the cessation of such great hauls, they can feast for days on the varied booty and meanwhile rest up thoroughly.

226 We have just mentioned the fact that the man sometimes
462 also takes part in fishing (283). Fishing with a line, as we have

197. The general pole set up by bridges (p. 381) long before is true, namely, "and very seldom help their wives to catch fish" /read in English/. Fishing is woman's work.

aid, is an exclusive task of the woman, but when the worms of (362) approach, he sometimes also takes up the fishing. He alone, however, drives a spear or a small harpoon into the body of a large fish. He is stimulated to this action when dense masses of (362) are attracted by large fish that are often lifted above the surface of the water and brought quite close to him. If the wood or bone point of the missile penetrates deeply into the fish, it is badly hampered in its movements and falls helplessly into the man's hands. Large whales (Megaptera nostrata)

/552 cont./

like to hover at the bottom of shallow inlets in the sunshine. These are also easy to spear from a rock or from the canoe and can afterwards be easily hauled in (294).

294. Hyades (h):29 refers to Fitz-
Roy (a):184 and adds: The Yamana
"Take large fish with the saw-toothed
harpoon" /translated from French/.

In exceptional cases the men also build weirs. They decide to do this when there are several families assembled and it is impossible to travel on, but a shortage of food threatens. An Omaka, wyepa is a hastily erected woven construction consisting of short sticks driven into the ground and longer interwoven rods, the whole filled in with dense brush. The weir is never more than a meter high. They are placed in narrow inlets or, preferably, in narrow brooks running into a broad channel (296). During an incoming

295. I noted the same construction, here and there, among the Halakwulup.

tide, depending on the water level, the entire brushwork is filled in only when the tide is highest, or only a small top strip is put along the whole width of the hurdle at high tide. In other circumstances the center is left open, being blocked off only at the beginning of ebb tide, depending on whether the whole weir is wide or narrow. At the lowest ebb the fish are held back and can be caught with the hands or killed with sticks. Weirs are used very little, because, as I was told, they can be erected only amid all kinds of inconveniences and because they do not promise sure success (296). Fishing with a line, however, is always more

296. Hyades (h):17 is the only European observer who mentions weirs. See also further pertinent data in Cooper:109 and Hyades (q):372.

successful and, by comparison, requires little effort. Indeed, it affords the woman a certain amount of rest in her /162/ active

/155 cont./

- 221/ daily tasks. Hence every other type of fishing, with the excep-
 222/ tion of the occasional mass-catch of 18671, is avoided as much as
 possible (297).

297. According to Hyades (p) 26: "...the
 case with which they get fish among the
 large algae relieves them of all the work of
 making a fishing post" /translated from
 French/, and the same is equally true of
 similar arrangements.

- 222/ b. Birds. Birds' eggs are also counted among the foods from
 the animal kingdom by our Foulon natives. Earlier travelers, for
 example, Fitz-Roy (s) 184, often observed that "eggs are eagerly
 sought for by the natives" /cited in English/. Spring is the time
 for them. Whenever the family lands, the girls and women hunt
 223/ for the nests of large birds. They do not choose among them,
 nor does it bother them if the eggs have been set on for some
 time. Their hunt is, without exception, rewarded by a rich har-
 vest, for they are very familiar with the breeding places of all
 kinds of birds. Gathering is very easy where penguin breed, for
 they lay large eggs. The women bring their harvest to the cabin
 or the hut in their little baskets, and it is promptly consumed.
 They never risk any special dangers in order to obtain birds' eggs.

- 223/ At the beginning of summer they also take young birds of
 large species still in the nest. They kill the tender animal by
 hitting it on the head with a stone or stick or by beating it hard
 against a rock. Above all, when they search out the breeding
 places of cormorants and penguins, they quickly fill their baskets
 with this game. Young cormorants cannot escape beyond the
 immediate vicinity of their nest because their wings cannot as yet
 carry them from the height of their nest into the sea, and penguins
 are likewise nest-bound because they do not yet know how to
 move in the water.

- 23/ For entertainment and out of playfulness, the women also
 like to take an occasional young bird to their hut where they
 feed it until it is full-grown. If it proves tame enough, it is

262 Latching (1968, p. 85) noted the relative importance in the Falgaos dietary of their foods as follows: (1) Eelish of fish importance, mammals; (2) seal, walrus, and fish of many kinds; (3) seal, porpoise, gulls, and bird eggs; (4) clam, whale, lingcod, walrus, sea urchin, grass, porpoise, mackerel; (5) seal and walrus, other (chiefly in the seal), grass (only in the seal), walrus, ducks, berries (especially wild black currants). The Falgaos were those growing on trees; those growing on the ground were not eaten. Some wild cherry and wild plumage and two varieties of rose and young shoots of tamarack grass were also eaten. Fruit was eaten only in famine as a last resort. Fish was not used.

225 Hunting.—Fishes were latched with spear or harpoon from canoe or from land (pl. 86), or killed with darts. Whales were occasionally latched in the open sea with spear or harpoon; stranded or dead whales were eagerly exploited. Dogs helped in water and for hunting.

223 Carcasses were taken at night by torchlight with darts; also with a pronged wooden grapple hook. Birds were taken with pole snare (fig. 11, d) and with single or multiple tether snare of stone or whistlers. No living pole snare, doublets, or pitfalls are reported.

226 Fishing and sea food gathering.—Mammals were gathered by land; lingcod, with a barbed stick; sea urchins, with a barbed wooden fork; walrus and other Crustacea, with a harpoon or a three-pronged stick. For taking sea food, the Falgaos also used a spear with two diverging darts, or two to four spears latched together. When fished with a harpoon or barbed whale-dart line, the fish had a slipknot of whistlers or of quills at the end, instead of a hook, to hold the bait; slowly drawing the fish to the surface, they would grab it by head. Fishhooks were probably lacking. Weirs of branches or stakes were used. True fish nets were absent. The normal approach device was a small basket attached to the end of a pole and used as a sort of dip net for diminutive fish.

251 Food storage.—Limited quantities of dried raw Falgaos were stored; as the walrus, especially whale and seal oil.

415 Food preparation and eating.—Large round shells were used for boiling fat and boiling grass. Water was heated and grass boiled by throwing hot stones into them, but there is no record of stone boiling proper.

254 Shells of large mammals were sometimes used as plates; shells or bark hollowed as cups; hollow bird bones or seals as drinking tubes.

CLIMATE AND SEASON

341 There were no permanent villages. Certain groups of natives re-
621 latched apparently by blood and marriage frequented and occupied more or less fixed separate localities within the respective Falgaos.

FURIA

33

substantiated by this animal, recall the gopher burrows in western North America.

The Furgian dog is not known in a wild state, and today it is extinct, although much blood of the native breed must run in the veins of the innumerable sheep dogs and hounds to be found on the island. In height the native dog ranged from 11 to 20 inches. Their ears were pointed, muzzles sharp, and skulls broad. The markings were black and white, with tan markings. Like most Indian dogs they lived largely on such garbage as they could pick up around the encampment, but in times of plenty they were given meat or mussels by their masters. Also occasionally they might pull down a quoniam and enjoy a square meal before the arrival of the hunter, as illustrated in the legend of Kanihi, presented later.

Of the sea animals, the four kinds of seal found in Furgian were found the principal meat diet of the Valgus. Not only did they eat the seal, but they used its hide for ropes, moccasins, trousers, and things. It is surprising they never invented a fish boat, which would have been much less profitable than their fish cream. The Hush also ate a great many seal, and the Ose ate seal but did not specialize in its pursuit.

One of these kinds, one living on land and two in the sea, was prized by both Valgus and Hush, who used their skins for clothing. Both these people smoked porcupine, and at times, when some house Indian around them of good weather, they passed them for into the open air.

To the Furgian whale was a great delivery, and by all accounts the best fish existed in large numbers in Furgian waters and nearby. Sometimes the Cape Indian ventured to attack whales that had beached into shallow water, but usually they were worried dead on the beaches. These were quite common, and fish and moccasins were frequent as great numbers gathered to gaze themselves on the shore puffed, dived, and striking fish. When seized, the Valgus sometimes baked a meat supply for winter ground when, were there that, it might be preserved for many months. This custom recalls the burying of salmon on the northwest coast of North America, where the decomposed fish was mixed with oil and eaten with gusto.

Furgian were dressed in fish, both large and small, which were eaten by all the tribes. The Ose took fish from ponds at low tide, 236

136 while the Yahgan speared them in deep water or drew them with
226 bait to the surface where they could be seized by hand. Failure
to utilize fully the fish supply must be regarded as a great deficiency
of the Fuegian economic system, a lack which might have been
overcome by the invention of fish-traps and the fish-hook.

Both Fue and Canoe Indians ate great numbers of mussels,
cochis, and limpets, and ancient camp-sites often are indicated by
large piles of shells. This is especially true in the Yahgan country,
because all their camp-sites were on the beach where shellfish were
easily obtained.

136 The Canoe Indians ate a species of sea-urchin some three or
four inches in diameter, and also crabs. Of these the most succulent
is a giant spider crab (*Lithodes antarctica*), so good to eat that
today it is canned and exported from Punta Arenas.

Birds abound in Tierra del Fuego. Many, to be sure, have a
fishy taste, but to a palate not over-delicate they offer an abundant
food supply. Among birds of economic use to the Indians we
should mention four kinds of game and five kinds of duck. The
upland game and the pin-tail duck are the best eating. Also
there are many kinds of gull (including the albatross), penguins,
vultures, eagles, doves, plover, and, curiously enough, a paroquet
and a hummingbird.

136 As to the environment in general, it is much more suitable
for supporting human life than is realized by those who have not
visited Tierra del Fuego. The public mind, we believe, is unduly
impressed by the romantic place of the island in history, by ad-
venturous accounts of midwinter weatherings of the Horn in sailing
vessels, by modern travelers elated at the length and labor of their
journeys. Glaciers descended to the sea in Tierra del Fuego, but the
land also nourishes orchids, mushrooms, paroquets, hummingbirds,
and butterflies. Prosperous sheep ranches with their comfortable
and commodious houses and their well-stocked vegetable and
flower gardens show that European standards of living can be
achieved on the island. And these settlements, were over-sea
transportation to be cut off, could probably maintain themselves
better on local resources than most European settlements in the
tropics.

The climate of Tierra del Fuego, to be sure, is severe, but it is
not so extreme as inhabited regions of Europe, Asia, North America,
and Greenland. Agriculture within certain limits is entirely

/487 cont./

- 227 The Indian woman uses the so-called mussel fork, which she calls kalāna, in order to loosen the cluster-like accumulations on the deep coastline and to break off the individual shells on the stalks of Macrocystis algae. The husband must make this implement for her, for he alone has the necessary tools. He chooses for the shaft /488/ a young tree as tall as possible. He prefers [824] Maytenus magellanica, the wood of which is heavier than that of the beech. He takes the bark off the little trunk and smooths it well, cutting off the upper end somewhat obliquely. He allows a length of two and a half meters and more.

[824] The actual fork, which is only about one-fifth as long as the shaft, yēyakēr⁴, is lashed onto the latter with a narrow leather strap. The only suitable wood for this is huma, the large Berberis ilicifolia which is extraordinarily tough and hence very flexible. A rather thick small stem is split lengthwise, the more suitable half is cut off at the bottom like a spatula, and a long incision is made to produce a two-pronged fork. A small, short wooden plug is inserted into this slit and lashed with a braided thread of rush or with whalebone (197); this keeps it always open. Through

197. Lothrop (b):154 reproduces what he calls a "limpet-spear" /cited in English/, in which the short plug is lashed with a narrow strip of whalebone. Figure 61 of the present work shows a lashing with braided rush stalks.

its own expansion the layers of wood fibers warp so advantageously that the entire piece seems curved outward. This slight bending facilitates penetration into the clustered accumulations of mussel shells. The upper part of the fork is whittled all around and tied to the shaft (Fig. 61).

- 226 The Indian woman lets this long implement glide from her canoe perpendicularly into the depths. She uses it, however, only on days when the sea is calm and the water transparent (198).

198. Hyades (q):369 writes: "This fishing is common practice and each canoe is always furnished with tools for this purpose" /translated from French/.

/488 cont. /

226 She loosens each individual shell, breaks it off from the place where it is lodged, and lifts it up. The mussel fork almost always lies in the front part of the canoe between the harpoons and spears of the husband, since it is safest here.

- 227 When the Indian woman, walking on the uncovered sea-floor at ebb tide or wading in the water, breaks off the mussel shells, she perceptibly lessens the strain on her hands if she uses a pointed stick which I call the mussel breaker (Fig. 42). This is nothing more than a sturdy stem or thick branch of Berberis ilicifolia. The husband makes it for his wife. He removes the twigs smoothly but leaves the bark, since its rough surface always assures the hand a firm grip, no matter how thoroughly the stick is soaked with sea water. It was just mentioned that the wood of this bush is very tough, yet soft and pliable. Another type of wood would seldom stand the strain of the springy movements which are necessary to pry off the mussels. At the bottom the mussel breaker is cut off in the shape of a chisel and with a dull edge so that it can easily dig deeply enough into the clustered accumulations of mussels. The woman is very adept at handling it effortlessly.

/489/ If she does not happen to have it, she reaches for a /Fig. 42 appears here/ stick the length of an arm which she cuts to a short, dull point. With this wasinix she pokes into the cluster of mussels, moving the upper free end back and forth until the individual animals are loosened.

- 226 The very tasty oystomes are also appreciated by the Yamana as a delicacy. We refer to the large axiya (Lithodes antarctica) and the small stekálus (Paralomis granulatus). These animals are found there in considerable numbers and constantly move up and down the coast on the sea floor according to the movements of ebb and flow. They are always, however, under a considerable amount of water. The natives are not always successful in diving to catch them because they stay in the depths and seek to escape. Hence a long implement has been invented which it seems suitable to call a crab fork and which the Yamana call sirra (Fig. 62). Its basic form corresponds precisely to the

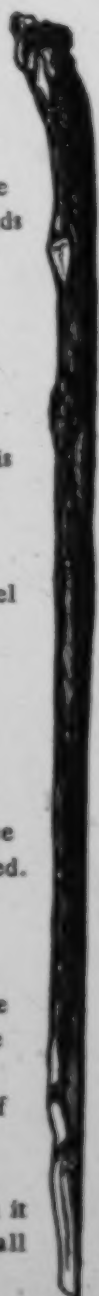


Fig. 42.
Mussel Breaker.

/489 cont./

- 227 mussel fork. There is a complete description of it elsewhere, as well as a discussion of how it is used.

[824] The bark of a small, straight trunk of the evergreen beech is scraped off and the surface made octagonal. For the part that is added on, the natives choose a small, thick stem of the large barberry, huma, the particular suitability of which has been repeatedly described. They split it crosswise two-thirds of its total length, and the four prongs are pried apart with two small, short wooden plugs. These prongs are tapered to blunt ends. The other end, after it has been suitably cut off, is lashed tight to the shaft with a strap or with a small cord of braided rushes. Colini: 161 describes a specimen, the total length of which is 3.25 meters; most of them are not longer. The thinner it is, the more suitable.

226 The Indian woman slides this long fork perpendicularly into the depths from her canoe and pushes the prongs into the round, flat calcareous shell of the so-called cephalothorax of a crab. The pressure and construction which these prongs cause among the broken particles prevent the whole animal from sliding off when it is being drawn up, no matter how actively it wriggles with its long legs. In the canoe the Indian woman strips it off the prongs with her feet while she holds the crab fork perpendicularly in her hands, whereupon the animal falls to the bottom of the boat.

[462] It is, of course, again the duty of the husband to make this crab fork for his wife. While he is working on the shaft, he protects his hand with a special piece of leather (Fig. 28).

/490/

♂. The Fishline

The tender, fresh meat of fish is a welcome change for the Yamana in their somewhat monotonous diet. Sometimes the man throws a spear toward a larger fish that is resting in a shallow cove or that elsewhere affords a sure target. Much more often the Indian woman is busy with her fishline which she merely slips into the water from her canoe, never from the beach and still less by means of any kind of long fishing rod.

/490 cont. /

- 227 Two types of fishline are used, and they differ from one another only in the actual line. One is nothing more nor less than a small, pencil-thick stem of the large brown alga (Macrocystis pyrifera) from which, with the fingernail, the branches are removed so close to the stalk that it seems quite smooth (Fig. 63). After each use it is rolled up; hence it dries very slowly and does not readily become brittle. When it is needed, 20 minutes in the water will suffice to soften it up completely and make it flexible once more.

The other fishline is braided out of three thin filaments of sinew. Like the one mentioned first, it is eight and more meters long (Fig. 64). To make it last longer, it, too, is rolled up, but into a tight ball, after each use (199). The latter is incom-

199. Bridges (MM:III, 115; 1869) briefly describes both types. Hyades (g):38 repeated: "The lines are made partly out of dried seaweed [Macrocystis pyrifera], partly out of seal tendons, and are lowered with a stone tied to them." See Krickeberg: 320 and Lovisato (b):142.

parably more durable and proves to be much more trustworthy when it is hauled in.

- 227 Both lines terminate in a loop with a running knot made out of a quill. When it is opened up, it measures about 12 centimeters. Since the actual line ends in a small knot, the upper end of the quill is joined on in front of the knot. Along its smooth surface the running loop moves without any friction. As bait it holds a small piece of seal meat or a small mussel.

- 227 Since the bait must sometimes be sunk to considerable depths, a sinker is indispensable. The natives use any stone with flat sides and irregular edges. It is about three centimeters high. The line is wound around it, about eight centimeters above the loop. In the central Yamana regions the natives sometimes select the round black stone tefi, but few women have any of them handy.

- 226 Every Indian woman is extraordinarily skillful in fishing. Since she does not use an actual fish hook, she waits until the fish has swallowed the bait and only then very gently pull up the

/490 cont.]

226 line. When the fish has been brought near the surface, she reaches down and grasps it with a sure hand, pushing her second and third finger under each gill cover. After she has lifted it out of the water, she bites through its neck and kills it.

227 /491/ The mares and fishing implements used by our Yamana show extreme appropriateness. Each one of these things proves that it enables the Indian, with a small amount of effort, to get the wild animals he wants or is stalking.

9. Tools

412 The Fuegians have not yet advanced to a universal or even
324 preponderant use of stone tools. To blame this on the sparse occurrence of quartzite and slate in those regions is not sufficient explanation. When iron and glass were introduced by Europeans, [177] the natives used these materials immediately, albeit in limited measure, without, however, changing the original form of their implements or replacing them by others. Actual working of the stone seems necessary only in the case of stone arrowheads and dagger points (p. 169). It cannot be definitely shown whether these Fuegians also shaped the round black stone with a groove, known as *tsi*. Hence the greater part of their tools consists of mussel shells, wood, and bone. This fact can be easily ascertained from the accounts of earlier navigators.

The following description pertains to those items as they were made before being influenced by Europeans. We must credit our Fuegians with considerable cultural progress by reason of the fact that they succeeded in making a number of implements of different construction and form, each with a very definite use.

412 We should like to mention briefly here a peculiar form of behavior of the Yamana which Lothrop (3):139 has also referred to.
461 When they need anything for their implements, they do not take the trouble to make a thorough search for a good piece or await an opportunity to come across a better part. Rather, they take the first thing that comes along if it suffices for their momentary need and if it promises to fulfill the purpose for which it was intended. A better shaped mussel shell to be used as a knife, a more regular

/540 corr./

226 trouble to seek out the preferable spots where there are large shells.

Sitting in the canoe, she breaks them off with a long wooden fork (Fig. 61) and lifts them up with it. Even the husband sometimes reaches for this useful tool while the woman tends to the boat, if there is a possibility that a current might push it off. The people call the tool kalāna; I designate it as "long mussel fork." It consists of a head and a long stick with a square cross-section (265). A suitable stem of

265. It was well illustrated and described by Hyades (h):13 and (q):300, 368. Lothrop (b):155 gives it as "limpet-spear" /cited in English/, Hyades (h):13 as "a hafted, slit spatula of wood" /translated from French/.

Nothofagus betuloides is chosen, or Maytenus magellanica, which they like even better. The latter is heavier and stronger and makes the work easier for the woman. The upper part is always made out of the tough wood of the large barberry (Berberis ilicifolia). A stem about three centimeters thick is split down the middle, the suitable part freed of bark and flattened on either side until it resembles a chisel. The upper, wider end is split into two prongs which are held apart by the insertion of a short wooden plug about as thick as a pencil. This is put approximately in the center of the entire groove of the split and is tied with a braided rush thread, a whalebone strip, or a bast fiber. The thicker end of the long pole is also flattened on its broad side; the two pieces are fitted against each other and secured with a narrow leather strap or a braided rush cord, just as in the case

Fig. 61. Mussel Fork.

/540 cont. /

227 of the crab fork (Fig. 62). This long mussel fork is very easy to handle. A gentle push from above loosens the clinging mussel below, and making the fork spring back and forth, always from the same direction, finally releases it. If possible, it is lifted up from the ground by hand. In deep places the woman with her long fork pushes it under water to the open beach. Usually, however, and this is a second reason for the long shaft, she presses the shell between the two distended prongs and carefully draws it up. Often the shell slides out just before she gets it up; then she simply picks it up again. To decrease resistance, the woman lifts the long rod up vertically and grasps the shell with her other hand. Patiently she squats in her vessel, bent over the edge, and spears one mussel after another /541/ until after two or three hours she returns to the hut with the yield of her diligence. For this work the sea must be calm and clear, for the deeply bedded mussels are usually covered over with floating algae of various kinds and are not easily recognized. The mussel fork is a necessary adjunct to the canoe, and no Indian woman is without it.

226 Since there are many days that are not suitable for plucking off the large mussels in deep water according to the method described, the people also content themselves with the somewhat smaller and less tasty animals near the beach. Women and girls step into the water and wade out to the densest accumulations of mussels. They either tear them off with their hands or loosen them with a stick the length of an arm, flattened at one end, which I call the mussel breaker, wasinix, and which BD:379 refers to as sajasinix (Fig. 42). Finally, they also use any stick that is pointed at the bottom. They immediately place the shells in their little baskets, which they have hanging on their arms or which they set on the ground at the edge of the water. Bent low, they walk along slowly and silently, without straightening up; they collect busily until the little basket is filled. Since several persons may be occupied in this way at the same time, the line they form looks somewhat strange to a European observer who happens to meet them (266).

266. Hyades (C):366 agrees: "It is a curious sight which confronts the European who

/542 cont./

226 finally, when the sea is calm and clear, she uses her long mussel-fork, kalfna, with which, from her canoe, she lifts up from the bottom the largest, deeply embedded mussels individually. As Hyades (q):367 points out, the Indian woman is perfectly adapted for this work, since "it suffices for this fishing by hand to watch the movement of the tides, to know the beaches that are richly provided with shellfish, and to have a little manual practice in pulling up quickly the mussels that cover the shore" /translated from French/. To the Yamana the mussel is /543/ /Fig. 62 appears here/ simply indispensable. To gather them in the required amounts is a daily duty of the woman who devotes herself to it whenever the weather permits (270).

270. Bridges (MM:X, 58:1876). Dabbene (b):183, Hyades (h):2 and (q):366, and others have expressed themselves accurately and in detail about this. Bridges (loc. cit.) used the comparison of earlier navigators, namely, that "mussels are to the Firelanders what bread is to the Englishmen: the staff of life all the year round" /cited in English/. Hyades (q):339 likewise repeated that mollusks "are a sort of daily bread to them" /translated from French/.

Her daughters of all ages help her.

Along inlets which are bordered with a flat shore and fine sand, the women sometimes look for the tasty tačówin (*Mactra*) and the large mussel, həwəm



Fig. 62. Crab Fork.

/544 cont. /

226 however, that the Indian woman "practices (this type of fishing) with extreme dexterity" /translated from French/.

3. Oxytomes. More important than sea urchins for the Indian household are the large oxytomes plentiful in those waters, namely, nahfius (Paralomis granulosa) and the much larger axiya (Lithodes antarctica). The latter are sometimes 60 centimeters wide between the fourth pair of feet. These animals move across the sea floor, proceeding slowly toward the shore during high tide and then back to the middle of the channel toward the end of low tide, in other words, in the direction of the water according to the tides. The Indian women take advantage of their habits. They go out to catch crabs about two hours before the tide rises because at that time the animals are nearest to the surface and are just beginning to move back from the shore, following the ebb.

227 Oxytomes can be reached only with the canoe which the woman rows, and by means of the long crab-fork, known as tira. Usually /545/ one woman will steer the canoe and another will fish. For the above-mentioned fork (Fig. 62) they choose a perfectly straight, light pole about two and a half meters long from

[24] the young trunks of Nothofagus betuloides or Drusys winteri or Maytenus magellanica. The bark is scraped off and a smooth surface obtained. The first of the above trees is preferred, and from this they fashion an even, octagonal shaft. In the case of the other trunks their roundness is retained. The added part consists of

[24] a stick about 70 centimeters long of Barberton ilicifolia, the upper half of which is split twice crosswise. The four prongs are whittled to a sharp point and spread apart somewhat with two short small plugs forming a cross and tied together with a beaded cord of rushes. Both parts are flattened so that they fit well on top of each other and are then lashed with a narrow leather strap. The expansion of the tough, flexible barberry wood explains the fact that the four prongs are slightly curved outward. This piece was drawn through the fire for a short time as soon as the stick was cut off from the root and split. No other wood is so suitable, and the Yamanas know this from long experience (p. 254).

226 It is possible to catch oxytomes (Decapoda) only when the sea is calm, because the Indian woman must look for each individual

/346 cont. /

- 226 Although in general fish add a welcome change to the monotonous diet of the Indian, it is by no means of real significance for his nourishment. Referring to this, Hyaden (p) 14 has very much exaggerated. For example, no one touches the representatives of the order Harpagifer, thyan, thyan, although they would be very easy to catch. They are about as long as one's hand and have a broad head. They remain in the residual pools and cling to wet stones when the tide recedes.

[BQ] It is exclusively the woman's occupation and task to fish with a line for certain smaller salt-water species. A man would never do this. The women use two different kinds of lines (see Hyaden (q) 203). They fish with a line throughout the year, but only 227 283 when the sea is calm (278). The woman makes the very simple

278. To say that a woman fishes only "three months," that is, in summer with its long days, as Hyaden does (q) 270, is unjustified.

- [P24] line (Fig. 63) herself. She chooses a long pencil thick stem of the easily obtainable (figs brown) alga (Macrocystis pyrifera) and removes the few branches by snapping them off lightly with her fingernail. In this way she produces an almost smooth strand, tyne, thlypwa. Since it is elastic, it can be easily wound into a loose coil. In the shade it dries only partially so that it remains slightly damp. Any dull-colored, flattened, irregular stone about 227 the size of a pocket watch will do as a sinker (280). The line is

280. In an emergency the woman will even use a longish, stone spear-point as a sinker. This may have led some less careful observers to conclude that the Tamana use actual fish hooks such as are employed elsewhere.

wound around it and knotted so that the free end hangs down a few centimeters /347/ below it. This end is finished off with a small knot, into which is fastened a fiber from the quill of a stout bird feather, about ten centimeters long and four millimeters wide. The quill taper somewhat /Fig. 63 appears here/ at the bottom and ends in a running knot that holds the bait. The latter consists

/547 cont./

227

of bits of meat, the size of a cherry, from a small mussel, or a tiny bit of seal meat, or whatever else the woman happens to have. As soon as the long thread of alga is dipped into the water it is quickly impregnated with moisture. In spite of its extreme flexibility, it is strong enough. As a substitute they also choose a fishline, apür

[60]
237]

tuqine, made out of several meters of braided, tough sinews, tafim

(tuqine) (Fig. 64). The sinews,

tuqine, of the guanaco are

well adapted to this because they are long, fine, and durable.

If they are not available, sinews of whale,

seal, or otter are used. Even heavy fish

cannot tear this line. Sometimes the

woman flattens the sides of the sinew

(tuqine), also tuqine according to SH-289,

"a sink [round stone or lead] for fish

lines" /used in English/, smooth the edge,

and cut a shallow notch into it for the

thread (SH). She goes to the trouble of



SH. Hyden (S):19 illustrated a stone fashioned in this way and comparable to a rounding lead. Next to it he shows a second fishline "of beaded whale sinews with a polished, grooved stone serving as a weight" /translated from French/.

specially shaping the stone only when the fishline is of braided sinews, which is stronger than a line made of an alga stem. In the central part of Beagle Channel the people even use a spherical black stone about four centimeters in diameter, which is provided with a shallow groove for the fishline. According to the old myth about

Fig. 63. Fishline Made from an Alga Stem. Three-quarters natural size.

[70]

tuqine was introduced by a woman in central Chile.

/547 cont. /

- 227 by a woman in ancient times. The quill fiber, tūxulina, with the running knot to hold the bait, which we have just described briefly, is the terminal point of every fishline (282).

282. Lista (b):48 speaks of "fishhooks of stone or of fishbones" /translated from Spanish/. His inaccurate data are worthless. Barclay (a):64 is more reliable; he reports on "fishing without hooks" /cited in English/, that is to say, without actual fishhooks.

- 226 /548/ The woman manipulates her fishline in a strange way, as earlier navigators had already noted. She never uses an actual fishing rod (283). In her canoe she rows to those spots in the mangy

[227
177]

283. BD:406 uses the expression "tsimmōk, a rod used for fishing with from the shore" /cited in English/, but if it actually occurs, the fishing rod was introduced by Europeans. I myself never saw one.

inlets where there are extensive clusters of floating *Macrocystis*. In the intricate entanglement of the small stems of this alga there are scores of fish large and small. The Indian woman ties up her vessel on one of the thicker stalks or pulls a tangled bundle of these small stems over a part of the canoe, which secures it well. Now she has both hands free, reaches for her fishline, and puts some bait on the lower end of it. Under the weight of the sinker the fishline uncoils in her hands, and she holds the line loosely in the water. Bent over the side of her canoe, which is tilted a little, she stares fixedly at the bait. This, as well as the fishline, deceive all fish, since they correspond exactly to the environment. When a fish bites and has swallowed enough of the bait, the Indian woman lifts the entire line along with the fish with a gentle tug until it is close to the surface of the water. Then with one hand she suddenly jerks up the fishline and with the other hand she grasps the fish the moment it is lifted out of the water (284).

284. This method, which was observed

/549 cont./

226 same time. They have previously agreed on their plan in accordance with the weather and their own moods. Although they are close together in their canoes, they avoid all conversation. Within a short time, especially if they are favored by the weather, every woman has roughly a few dozen fish (284).

284. Fishing with the line is sometimes very profitable, as Hyades (h):15 confirms.

Several species of fish with tasty meat take the bait, most frequently lipun (Notothenia cornucula), sina (Notothenia macrocephalus), imakhia (Genipecten chilensis), étiay (Chromichthys eos), laka¹ (Latilus aff.), and others. In general, these species can be pulled up with the fishline made of kelp, which seldom breaks even when the fish is moderately large (287). In places where

287. Hyades (q):371 also confirms: "The common lines of seaweed rarely break, and they are adequate to take fish of medium size, up to half a kilogram" /translated from French/.

larger fish bite, the Indian woman chooses a fishline of woven sinew fibers (Fig. 64) so as not to lose her catch, for sinew fibers are strong and resistant as well as much more durable.

The Yamana women set out in their canoes at any hour of the day, if the surface of the water is smooth and the weather promises success. They even venture out on the water during the brief summer nights which are rather light there, but grow in the dead of night, however, even with bright moonlight (288). They like to go

288. Many observers described this type



Fig. 64. Fishline Made of Sinew Cord. Three-quarters natural size.

/330 cont./

226 limitless voracity, finally the remainder decays. As soon as the mounting attack becomes somewhat more penetrating, the many people that have assembled quickly leave the place and scatter in all directions.

/331/ Sometimes similar shoals of ⁴331: (*Clupea arcuata* and *Clupea pectinata*) wavel into the inner channels or encircle larger inlets without running up on the beach. The Indians clearly recognize them by their numerous and varied followers. As quickly as possible they row after the shoal and try to approach it from the side without getting into the drag.

With a special basket known as Isaywux (Fig. 65) (281).

281. In order to avoid confusion, I shall retain the designation "fishing basket," because it is made of the same type of rush (*Mariscuspermum grandiflorum*) as the other three types of baskets, but without a complex weave of the rush stalks. Compare *Iyodes* (p. 272). *Lodrup* (p. 141) called it "Fish-net" /called in English/.



Fig. 65. Fishing Basket. One third natural size.

/Fig. 65 appears here/ they sweep the small fish directly out of the water into their canoe. While one of the women tends to the canoe, the other sticks the loose fishing-basket on the end of a pole about one and a half meters long. She grips the lower end of the pole and, from the canoe, drives the upper part with the basket through the water as though the whole thing were a large ladle. The woman handles it carefully so that the basket does not slide off. Only when it is barely above the bottom of the canoe does she let the basket,

THE VALGAS

199

On Gable Island and other places where birds nested the Valgas captured the young and tamed them to frequent their wigwags until they were large enough to be eaten. The writer has seen young upland geese and gulls thus tamed. Also, in the summer, the Valgas had special bird baskets near the breeding places, because at this time of year the birds, though nearly full-grown, have not learned to fly and may be captured by running them down.

FISH LINE

The Valgas fish line, shown in fig. 32, consists of three elements: line (lajpa), sinker (sinker), and bait canoe (bait-canoe). The line is of braided whalebone and is ten to twelve feet long. The sinker is a small canoe with catches braided in opposite sides. The canoe, like the bird canoe, is a narrow strip of whalebone scraped thin and finished with a bit of shell. In an emergency a piece of bely was used as a fish line.

In order to fish, the Valgas women paddled in their canoes to a shallow reef. There they anchored the canoe by inserting the handle of the paddle under a pinnacle so that the blade projected outward on the other side. A heavy piece of bely was laid across this, which not only served to prevent the canoe from drifting but also steadied it. Bait was then inserted in the canoe and the line was lowered. When a fish had climbed on and partly swallowed the bait it was pulled to the surface, seized by a quick dart of the hand, and killed by biting it in the head. Fish were cleaned as soon as they were caught by biting a hole in the bely through which the guts could be extracted with the finger.



FIG. 32.—Valgas fish line. Length of sinker, 1 in. (1/2 in.)

525

METHODS OF TERRA DEL FUEGO

525-526

- 227 As certain seasons of the year Baple channel is infested by small codlike fish which the Yalgos captured in lip-nets (shumaki) even of grass. A rather poorly-made example of these is shown in fig 20. It will be noted that there is a light wooden frame reinforced by parallel cords of grass tied to the margins of the frame. This was lashed to the end of a pole and each of the fish were slipped out. A model of this implement appears in the box of the chest in fig. 11.



FIG. 20. Yalgos lip-net. Baple.
(See page 525.)

525-526

According to Hyades (1908, p. 212) the Yalgos sometimes erected

in suitable places fish-traps consisting of a row of staves. Of these I saw no trace in Terra del Fuego.

525-526

- 529 Yalgos sailing was based on the family. There was a higher
530 and, however, several families usually gathered their canoes in
531 groups, so the ship-brothering was heavy for a single crew, and
they divided the catches and into two parts, of which each carried
one. While the Yalgos were crews, they usually moved regularly
in one direction, where most of the people were their relatives.

- 532 All chapters of the Yalgos consisted in their lack of leadership.
533 No chief was named a certain authority through the law they
534 imposed, but at times they were roughly handled, as their power
was in no wise great. As no ceremonial exceptions were under-
taken, there existed no need for chiefs.